January 2019

ACL Complaint #R7-2017-0040 Compliance Project Proposal

Seeley County Water District

Seeley, California

Drafted by Aaron Garcia

Seeley County Water District Wastewater Treatment Plant Chief Plant Operator

with assistance from John Kemp of JHK Consulting

Violations as listed in CIWQS MMP Report 9_5_18-MJ:

70 total violations under Order R7-2012-001 not covered by CDO R7-2011-0058

- 36 Total Cyanide Violations
- 12 Total BOD Violations
- 7 Total Bacterial Violations
    - 4 Enterococci
    - 3 Fecal Coliform
- 7 Bis (2-Ethylhexyl) phthalate violations
- 6 Total TSS Violations
- 1 Oil and Grease Violation
- 1 Zinc Violation

Plus 23 total violations under Order R7-2017-0016

- 16 Total Copper violations
- 4 Total Cyanide Violations
- 3 Total Bacterial Violation
    - 1 Enterococci
    - 2 Fecal Coliform

Plus 1 reporting violation

Statements on the Violations

Bacteriological violations from 10.30.2012 - 11.28.2017 amount to 9 total violations. During the life of the new permit period (11.2017 - 2022) there has been a single Enterococci for exceeding maximum allowable density in the month of January 2018. There have been no bacteriological issues in the eight months following that violation. SCWD contends that bacteriological violations are not a current or future concern.

BOD violations during the same timeframe amount to 12 total violations with the most recent occurring in March of 2017. During the life of the new permit period (11.2017-2022) there have been no BOD violations. Average monthly effluent BOD for our facility is 18.3 mg/l, 28% lower than current permit limitations. SCWD contends that BOD violations are not a current or future concern provided that permit provisions for BOD effluent limitations are not significantly lowered for the next permit period.

TSS violations during the same timeframe amount to 6 total violations with the most recent occurring in 09.2015. During the life of the new permit period (11.2017 - 2022) there have been no

TSS violations. Average effluent TSS is 18 mg/l, 40% lower than the current permit limitations. Permit limitations for TSS were already lowered for the current permit because SCWD WWTP effluent can "consistently meet effluent limitations for TSS more stringent than the prior Order."(page F-15 of Order R7-2017-0016) Because of this SCWD contends that TSS violations are not a current or future concern provided provisions for TSS effluent limitations are not significantly lowered for the next permit period.

The single Zinc violation occurred in 02.2017 with no Zinc issues occurring during any of the following months. Zinc monitoring is no longer required in our current permit. The single oil and grease violation occurred back in 12.2014 with no oil and grease violations during any of the following months. The 7 Bis(2-Ethylhexyl)phthalate violations occurred between 02.2015 - 04.2015 with no violations occurring in the following months.

The reporting violation was due to operator inexperience and a lack of direction due to a change in management and change in Chief Plant Operator. Sample was collected too late in the year to receive timely results.

Due to the consistent violations for effluent copper and cyanide during the current permit term Seeley CWD proposes to focus the scope of this proposal on copper and cyanide.

Key Points For the Project Proposal

1. Seeley CWD owns and operates a waste receiving station ("dump station") that receives an average of 140,000 gallons of port-a-potty and septic wastes per month from up to 22 companies although only 4 companies do the majority of the discharging.
2. The Seeley CWD Water Treatment Plant receives water from IID canal through the Elder Canal with an average copper concentration of 13.34 ug/l. There has been only one Cyanide test conducted on WTP source water with a negative result. The Seeley CWD Wastewater Treatment Plant influent lift station receives an average Copper concentration of 160 ug/l, drastically higher than water entering the potable water treatment facility. Copper and Cyanide samples taken from the influent lift station are currently collected when the dump station is in operation so there is no way, under current conditions, to determine whether Copper and/or Cyanide sources are wastes discharged at the dump station or wastes coming from the collection system. Currently Cyanide is not monitored at the treatment plant influent lift station so there are no averages to report.
3. Seeley CWD holds that wastes discharged into Seeley CWD WWTP through the dump station is responsible for the Cyanide violations and for the high Copper concentrations.

Previously Submitted Compliance Project Outline

(Taken in its entirety from *Compliance Project Outline* submitted to Water Board on May 22nd 2018)

SCWD is proposing the following for a compliance project in order to mitigate ACL #R7-2017-0040 The items listed within the overall project were selected in order to minimize future issues related to metals in the discharge from the WWTP. It will key on the dumper station that is currently receiving waste from several companies.

1. Increased monitoring of waste brought to the plant by the disposal companies. This will be done in a two- step process with sampling and testing done on site as well as samples taken to the lab for analysis.
2. Staff education and training. This will be accomplished through attendance at schools and in-house training. In house training will emphasize review of dumper waste and sampling/analysis.
3. Addition of staff hours to monitor dumper disposal and testing.
4. Installation of a holding/monitoring facility which will monitor pH, temperature, of dumper waste to assist in identifying potential toxic loads.
5. Design of the holding/monitoring facility
6. Additional monitoring of all metals in influent waste that are currently required by permit to establish a baseline for future use.

The district is proposing a 5 year plan to accomplish these goals as costs need to be spread out over several budget years. The initial expenditures will be applied to increased monitoring and testing, staff education, and additional staff/staff hours to oversee the monitoring and analysis. The following are the costs associated with the proposed project for each fiscal year.

1. Purchase laboratory equipment and testing chemicals/strips to perform analysis on waste.
2. Begin design on holding/monitoring station. We can receive assistance on this design by Hazen & Sawyer
3. Additional training for staff

4. Additional staff hours for monitoring and analysis. This can be accomplished by hiring new staff or by moving part time staff to full time status with the increase in hours being dedicated to the compliance project.
5. Additional laboratory sampling including the monitoring of all metals required by permit at treatment plant influent, possibly even at water treatment plant effluent.
6. Purchase and installation of holding/monitoring facility.

Work will commence immediately upon approval of the project concept by the regional board. The following timeline provides which items will be done by fiscal year.

1. FY 18/19 will commence with additional monitoring, staff education and training, design of holding tank, and increased staff hours.
2. FY 19 through FY 22 will be a continuation of the FY18/19 but the design should be completed.
3. FY22/23 Installation of holding/monitoring system.

State Water Board's response:

CP needs to address the violations of 1) BOD/TSS, 2) Bacteria, 3) Cyanide, and 4) copper. The proposed CP only includes investigation (sources), but no control measures proposed (treatment).

1. The proposed CP needs to include 1) detailed schedule and 2) budget.
2. I recommend that CP establish 1) Dump station monitoring program, 2) Inflow monitoring program, and 3) Additional control measures
3. The max compliance schedule is 5-year. No more extension is allowed after that.

Violations related to BOD, TSS, and bacteria were addressed earlier under the *Statements on the Violations* section of this proposal.

Updated Compliance Project Proposal Budget: updated January 15th 2019

At last count SCWD has $297,000 in penalty fines associated with effluent discharge violations and the Compliance Project proposal assumes a total fine amount of $297,000. Over the next 5 budget years Seeley CWD proposes to spend $297,000 of District funds to accomplish the following:

1. Further investigate and identify the source of the copper and cyanide violations
2. Eliminate and/or control the source(s) of the copper and cyanide violations
3. Improve the dump station to include better solids screening, monitoring of pH, Temperature, D.O., and the addition of an aerated holding tank or modifying an existing pond to control flows into the treatment plant.

Updated: January 15th, 2019

Revised Compliance Project Proposal Schedule:

In light of the additional $3,000 in additional penalties Seeley CWD proposes to spend an additional $3,000 to more carefully monitor and copper and cyanide discharges into the dump station and wastewater treatment facility through additional dumper truck discharge monitoring with the intent to ban trucks and/or companies from using our facility. These additional funds will be added to Budget Year 1.

Budget Year 1:

Proposed spending of **$46,886**. A small amount (about $5000) is to be used on preliminary engineering and general concept designing of dump station upgrades. Budget Year 1 is almost entirely investigative to help identify the sources for the cyanide and copper contamination. Actions taken beyond year 1 are dependent on the outcome of the results of year 1.

1. **$6,000** to be spent on JHK Consulting for work performed assisting SCWD on work related to the Compliance Project. Includes time reviewing draft documents, attending SCWD Board Meetings to provide updates, and conferencing with Hazen on scope of proposed work.

2. **$7,000** to be spent on an additional 10 working hours per week for staff to be spent at the dump station on Compliance Project related duties (this cost will increase by 3.5% per year

due to provisions in MOU with labor union). These duties will include collecting pH, Temperature, DO, TDS, and conductivity grabs from every truck discharging into the facility for record keeping and monitoring purposes. Copper and Cyanide samples will be collected from randomly selected trucks and/or from trucks whose discharges have pH, Temperature, DO, TDS, and conductivity reads that are out of acceptable parameters (triggered testing).

3. **$2000** Administrative time spent on source control. Specifically contacting and communicating with Imperial County Public Health Department requesting and helping to create a database of companies discharging Copper and Cyanide to our facility. Additionally an effort will be made to make the waste hauling business owners aware of the issue with an intent to educate the businesses and their drivers of the necessity of being aware of what is in their loads.

4. **$8,182** to be spent on influent monitoring and sampling. Currently composite sampling is run during the week on Tuesdays when the dump station is operational. Cyanide is not currently monitored at the treatment plant influent. Once this proposal is approved composite sampling will be run on Sundays when the dump station is not in operation. Additionally, cyanide and copper will be monitored weekly at a cost of **$150** per week during year 1. This will serve to give us better information on how much copper and cyanide are entering the wastewater treatment facility without dump station interference. During year 2 sampling frequency will be reduced to twice per month. During year 3 sampling frequency will be reduced to once per month.

5. **$13,484** to be spent on a lab probe, a small refrigerator and lab testing at the rate of $150 per truck tested. SCWD will purchase additional probes (**$684 price includes est. cost of shipping and tax**) capable of measuring pH, Temperature, DO, TDS, and conductivity to be used exclusively for the dump station as well as a small refrigerator (**$200 price includes est. taxes**) to hold Copper and Cyanide samples while waiting for transport to laboratory. Since only 4 of the 22 companies do the majority of the discharging into our facilities we propose that one truck per company have its discharge collected and analyzed for Copper and Cyanide on a weekly basis. During these first 4 weeks no other companies will have their discharge analyzed unless their discharge triggers testing. Cost for the first 4 weeks of sampling is estimated to be **$2,400**. After the first 4 weeks all sampling will be done randomly or based on triggered testing. Cost for this phase of testing is unknown but will need to be capped at **$10,200** (which amounts to 5 - 6 trucks per month over the course of

12 months although actual sampling frequency will be determined by experience and on-site observations). This will begin immediately after this proposal is accepted. This will be capped at no more than 2 trucks per month during years 3,4, and 5.

6. **$5,220** to be spent on additional effluent Copper and Cyanide monitoring. Rather than collecting a single effluent grab sample for Copper and Cyanide one time per month, three (3) Copper and three (3) Cyanide grab samples will be collected throughout the course of a single day once every month. Samples will be collected in the morning, afternoon, and at the close of the workday and will be labeled and stored according to lab directions while samples await transport to lab for analysis. The objective of this additional sampling is to eliminate the possibility of false positives and to capture a more representative sample of the Copper and Cyanide concentrations in our waste plant effluent.

7. **$5000** to be spent on consulting for preliminary engineering and conceptual work designing the dump station improvements. These dump station improvements will include a septage receiving package unit which feature solids removal and inline monitoring. Additionally this unit will tie into an aerated holding pond that keep dump station wastes separate from general wastewater collection system flows. The purpose of the additional pond or modification to an existing pond is to keep the two waste sources separate and control the dump station waste flows into the general wastewater treatment plant flows.

Budget Year 2:

Proposed spending of up to **$46,389**. For budget year 2 it is anticipated that the source(s) for the Cyanide contamination have been identified and blocked from discharging into the facility. Source control program, influent and effluent monitoring programs continue.

1. **$23,254** Carry over of Budget year 1 items 2 - 6 minus the $884 for the cost of a probe and lab refrigerator. ($7,245 staff hours, $2,000 Source Control Admin, $3,082 INF monitoring, $7,200 Dump station monitoring, $3,727 EFF monitoring). Monitoring of collection system Cyanide will no longer be conducted on a weekly basis under the assumption that Cyanide is not coming from the collection system. Effluent monitoring expenses will be capped at $3,727.
2. **$23,135** will be spent on consulting, engineering, and on the design of the dump station improvements. The purpose of the improvements and of the additional pond or modification to existing pond is to keep the collection system and dump station wastes separate and control the flows into the treatment plant. Also to be explored is the financial viability of using pH adjustment and chemical precipitation for Copper reduction. A report will be created highlighting the costs, timeline, and the general facility improvements

required to implement such a solution to the Copper problem. If Cyanide cannot be reliably controlled by blocking the use of the dump station during the BY 1 and 2 of the CP, a report reviewing the feasibility of on site Cyanide treatment will be created during BY 3.

Budget Year 3:

Proposed spending of **$55,129**. For budget year 3 it is anticipated that the source(s) for the Cyanide contamination have been identified and blocked from discharging into the facility. Dump station monitoring, and effluent monitoring programs continue.

1. **$19,907** Carry over of Budget year 1 items 2, 3, 5 and 6. Excludes cost of probe and refrigerator. ($7,498 staff hours, $2,000 Source Control Admin, $3,082 INF monitoring, $3,600 Dump station monitoring, $3,727 EFF monitoring). Effluent monitoring expenses will be capped at $3,727.
2. **$16,865** will be spent continuing the consulting, engineering, and design of the dump station improvements. Additionally a report will be created highlighting the costs, timeline, and the general facility improvements required to implement a Cyanide treatment technology at the current treatment plant facility.
3. **$18,357** to be put aside during year 3 towards the purchase of the septage receiving unit and the specifications for installation at the end of year 4.

Budget Year 4:

Proposed spending of **$73,025**.

1. **$15,088** Carry over of Budget year 1 items 2, 5 and 6. Excludes cost of probe and refrigerator. ($7,761 staff hours, $3,600 Dump station monitoring, $3,727 EFF monitoring) Effluent monitoring expenses will be capped at $3,727.
2. **$47,937** to be put aside during year 4 towards the purchase of the septage receiving unit and the specifications for installation at the end of year 4.
3. **$10,000** to be put aside for bidding and construction administration for the dump station improvements at the end of BY 5

Budget Year 5:

Proposed spending of **$75,571**.

1. **$15,259** Carry over of Budget year 1 items 2, 5, and 6. Excludes the cost of probe and refrigerator. ($8,032 staff hours, $3,600 Dump station monitoring, $3,727 EFF monitoring). Effluent monitoring expenses will be capped at $3,727.

2. **$60,212** will be spent by the District on the installation of the septage receiving plants and modifying existing ponds (or creating new pond) according to BY 2-3 engineering work.

ACLC #R7-2017-0040 Compliance Project Proposal Table

Plan	Activities	Objective	Year 1	Year 2	Year 3	Year 4	Year 5	
JHK Consulting (consulting services)	Assisting SCWD on work related to the Compliance Project.	Keep in compliance	6000	0	0	0	0	**6000**
Additional working hours (Staff Cost)	Collecting pH,Temperature, DO, TDS, and conductivity grabs from every truck discharging into the facility for record keeping and monitoring purposes. Copper and Cyanide samples will be collected from randomly selected trucks and/or from trucks whose discharges have pH, Temperature, DO, TDS, and conductivity reads that are out of acceptable parameters (triggered testing).	Dump station monitoring (Influent) and education	7000	7245	7498	7761	8032	**37536**
Administrative Time	Time spent on source control. Specifically contacting and communicating with Imperial County Public Health Department helping to create a database of companies discharging Copper and Cyanide to our facility.Additionally an effort will be made to make the waste hauling business owners aware of the issue with an intent to educate the businesses and their drivers of the necessity to be aware of what is in their loads.	Source Control and education.	2000	2000	2000	0	0	**6000**
Influent monitoring and sampling at Influent Lift Station (Monitoring Cost)	Composite sampling will be run on Sundays when the dump station is not in operation. Additionally, cyanide and copper will be monitored weekly at a cost of $150 per week during year 1. This will serve to give us better information on how much copper and cyanide is entering the wastewater treatment facility without dump station interference. Only copper samples will be collected during years 2 and 3 under the assumption that Cyanide is not coming from the city collection system.	Influent. Collection System Monitoring. How much copper and cyanide is entering the wastewater treatment facility without dump station interference.	8182	3082	3082	0	0	**14346**
Testing Equipment and Dump Station monitoring (Equipments/monitoring)	Additional probes ($684 includes est. cost of shipping and tax) capable of measuring pH, Temperature, DO, TDS, and conductivity to be used exclusively for the dump station as well as a small refrigerator ($200 price includes est. tax) to hold Copper and Cyanide samples while waiting for transport to laboratory. Cost for the first 4 weeks of sampling is estimated to be $2,400 . After the first 4 weeks all sampling will be done randomly or based on triggered testing. Cost for this phase of testing is unknown but will need to be capped at $10,200 (amounts to 5 -6 trucks per month over the course of 12 months although actual sampling frequency will be determined by experience and on-site observations). This will be capped at no more than 2 trucks per month during years 3, 4, and 5.	Influent. Dump Station Monitoring. Identify sources of Cyanide and Copper contamination.	13484	7200	3600	3600	3600	**31484**

Effluent Monitoring	Effluent Copper and Cyanide monitoring. Rather than collecting a single effluent grab sample for Copper and Cyanide one time per month, three (3) Copper and three (3) Cyanide grab samples will be collected throughout the course of a single day once every month. Samples will be collected in the morning, afternoon, and at the close of the workday and will be stored according to lab directions while samples await transport to lab for analysis	The objective of this additional sampling is to eliminate the possibility of false positives and to capture a more representative sample of the Copper and Cyanide concentrations in our waste plant effluent.	5220	3727	3727	3727	3727	**20128**
Consulting services	Year 1: Consulting, preliminary engineering and conceptual work designing the dump station improvements Year 2: Consulting, engineering, and on the design of the dump station improvements. Year 3: Consulting, engineering, and design of the dump station improvements continue.	Dump station improvements will include a septage receiving package units which features solids removal and inline monitoring. Additionally this unit will tie into an aerated holding pond (new pond or modify an existing pond) that keeps dump station wastes separate from general wastewater collection system flows. The purpose of the additional pond is to keep the two waste sources separate and only introduce dump station wastes at a controlled rate. Also to be explored is the financial viability of using pH adjustment and chemical precipitation for Copper reduction. A report will be created highlighting the costs, timeline, and the general facility improvements required to implement such a solution to the Copper problem. Additionally a report will be created highlighting the costs, timeline, and the general facility improvements required to implement a Cyanide treatment technology at the current treatment plant facility.	5000	23135	16865	0	0	**45000**
Equipment Purchase	Purchase of septage receiving unit. Money will be put aside for this purchase during years 3 and 4 to lessen the financial impact.	Dump station improvements.	0	0	18357	47937	0	**66294**
Professional Services	Bidding and Construction Management	Money put aside for CM dedicated to the construction of the dump station improvements at the end of year 5	0	0		10000	0	**10000**
Construction	Plant Upgrade Installation	Dump station improvements begin. Installation of septage receiving unit and creation of aerated holding pond or modification of existing pond for the purpose of controlling dump station flows	0	0	0	0	60212	**60212**
Sub-total			**46886**	**46389**	**55129**	**73025**	**75571**	**297000**

SCWD Proposed CP (Total $297,000)

1. **Consulting Service to Maintain Compliance** ($6,000; Completion Date: 12/1/2019)
    a. Consulting Service
    Assisting SCWD on works related to maintain compliance in 1) permit requirements and 2) Compliance Project:
        - Reviewing documents
        - Providing updates to SCWD Board
        - Conferencing with SCWD/Consultant on scope of proposed works

Expenditure: (Total: $6,000)
        - Year 1: $6,000

2. **Outreach and Education for Source Control** ($6,000; Completion Date: 12/1/2021)
    a. Administrative Time (Source Control and Education)

Communicating with relevant agencies to locate copper and cyanide dischargers:
        - Assistance from County Public Health Department to create a database of companies discharging copper and cyanide to the facility.
        - Educating the waste hauling business owners and staff

Expenditure: (Total: $6,000)
        - Year 1: $2,000
        - Year 2: $2,000
        - Year 3: $2,000

3. **Additional Monitoring for Source Control** ($34,474; Completion Date: 12/1/2023)
    a. Influent Monitoring (Completion Date: 12/1/2021)

Collection system monitoring for copper and cyanide without dump station operation (no waste Hauler discharges):
        - Monitoring influent without dump station discharges.
        - Composite samples collection to analyze copper and cyanide during year 1. Years 2 and 3 will only analyze Copper.

Expenditure: (Total: $14,346)
        - Year 1: $8,182
        - Year 2: $3,082
        - Year 3: $3,082

    b. Additional Effluent Monitoring for Copper and Cyanide (Completion Date: 12/1/2023)

Additional sampling to clarify potential false positive and to capture more representative samples of copper and cyanide in the effluent throughout the 5 year life of the Compliance Project:
        - Additional samples to be collected during monthly monitoring event. Sample delivery and analysis cost.

Expenditure: (Total: $20,128)
        - Year 1: $5,220
        - Year 2: $3,727
        - Year 3: $3,727

- Year 4: $3,727
- Year 5: $3,727

4. **Dump Station Improvement Project** ($247,526; Completion Date: 12/1/2023)
   a. Additional Staff Cost (Waste Hauler Monitoring)

Spending additional staff hours at the dump station on Compliance Project during the 5 year life of the Compliance Project. Cost includes total burden of additional staff hours on Water District budget including the cost of annual raises due to provisions with labor union MOU:

- Collecting additional samples from every truck discharging into the dump station and analyzing for Temperature, DO, TDS, and conductivity (triggered test).
- Keeping records and monitoring
- Random samples collecting for copper and cyanide analysis based on the triggered testing

Expenditure: (Total: $37,536)

- Year 1: $7,000
- Year 2: $7,245
- Year 3: $7,498
- Year 4: $7,761
- Year 5: $8,032

   b. Testing Equipment and Additional Lab Analytical Cost at Dump Station

Additional testing equipment and analytical cost for dump station monitoring (Waste Hauler Monitoring):

- Purchasing additional test probes and refrigerator during year 1.
- Samples delivery and analyses cost during the 5 years of the Compliance Project.

Expenditure: (Total: $31,484)

- Year 1: $13,484
- Year 2: $7,200
- Year 3: $3,600
- Year 4: $3,600
- Year 5: $3,600

   c. Consulting Service (Design New Dump Station)

Designing dump station for improvement:

- A septage receiving package unit which feature solid removal and inline monitoring.
- The septage receiving package unit will tie into an aerated holding pond (new pond or modifying an existing pond) that keeps dump station wastes separate from waste stream from general wastewater collection system
- Potential chemical precipitation for copper reduction
- Potential cyanide treatment for wastewater

Expenditure: (Total: $45,000)

- Year 1: $5,000
- Year 2: $23,135

- Year 3: $16,865

d. Equipment Purchase (Septage Receiving Unit)

Dump station improvement with new septage receiving unit:

- Purchase of the septage receiving unit
- Plans and specifications for installation

Expenditure: (Total: $66,294)

- Year 3: $18,357
- Year 4: $47,937

e. Professional Service (Bidding and Construction Management)

Service for bidding and construction administration for dump station improvement:

- Bidding and construction management

Expenditure: (Total: $10,000)

- Year 4: $10,000

f. Construction (Dump Station Improvement)

Plant Upgrade Installation:

- Installing the septage receiving unit and creating aerated holding pond Purchase of the septage receiving unit
- Reach full compliance of effluent requirements

Expenditure: (Total: $60,212)

- Year 5: $60,212